Research Paper | Finance | E-ISSN No : 2454-9916 | Volume : 5 | Issue : 7 | July 2019

A STUDY ON RISK AND RETURN ANALYSIS OF SELECTED FINANCIAL SERVICES COMPANIES LISTED ON NSE

Sushma K S[1] | Charithra C M[2] | Dr. Bhavya Vikas[3]

[1] MBA 2nd Year, BNM Institute of Technology, 560070.
[2] Assistant Professor, BNM Institute of Technology, 560070.
[3] Associate Professor, BNM Institute of Technology, 560070

ABSTRACT

The security market is very dynamic and volatile in nature, where prediction plays a pivotal role for an investor to invest in this market. Risk and return are two sides of a same coin, where both the aspects influence each other for an investment. Hence, understanding the risk involved in the investment helps to maximize returns. This study helps the investors to examine and compare the assessments along with the market and to identify the company which would be preferable to invest based on their risk-taking ability. The primary objective of the study was to assess the risk and return of the eight NSE listed financial services companies along with a secondary objective to compare individual company stock volatility before and after the event of demonetization. The tools and techniques used for analysis were Mean, Standard deviation, Beta, Correlation, Covariance and T-test. Analysis was done by using the closing prices of each month for all the selected companies (Bajaj Finserv, HDFC, ICICI, Axis, Cholamandalam investment and finance, State bank of India, Mahindra & Mahindra, Max finance services) for a specified time period. The findings of the study were that Bajaj Finserv had the highest returns amongst the selected eight companies and the volatility of all the selected eight companies had no difference before and after the event of demonetization. The overall study suggested that investors should always be ready to face any unforeseen events. To be on a safer side and to minimize the severity of loss during such events, various preventive measures like assessing the risk and return should be done well in advance.

KEYWORDS: Beta, Correlation, Covariance, Standard Deviation, T-test, Volatility.

1. INTRODUCTION:

The stock market refers to the collection of markets and exchanges where regular activities of buying, selling and issuance of shares of publicly-held companies take place. Most of the trading in the Indian stock market takes place on its two stock exchanges: the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE)

An individual (investor) decision-making process is influenced by the way he analyses the return and the risk associated with the investment. The research is based on the study of risk and return assessments of the selected eight financial services companies which are listed on the NSE (Financial services Nifty). The analysis of risk and returns of a stock is of utmost importance. An investor who wants to earn high returns should also be ready to face and accept the high risks which will be associated with that investment. Based on risk & return analysis, if the risk is low the returns will also be low where as when the risk is high the returns will also be high.

The financial services industry includes several types of companies associated with the feature of dealing with money and managing them, and it plays a crucial role for any country's economy. The financial services industry as a whole is substantial, vast enough and consists of organisations engaged in activities which includes making an investment, lending, securities trading and issuance, insuring, asset management, advising, forex, accounting, and many more. This sector consists of many companies/organisations such as commercial banks, NBFC, insurance companies, co- operatives, payment banks, pension funds, mutual funds and many other small financial entities. In India the financial sector is dominated by the banking sector which consists of 64% of commercial banks total assets which is held by financial system.

Every investment will be subjected to risk to some extent or the other. The best investment is that which gives high returns with minimum risk involved. For making risk analysis the market information is required, which in turn helps in making necessary assessments to take preventive measures.

2. REVIEW OF LITERATURE:

Dr. P. Subramanyam and Dr. Nalla Bala Kalyan (2018), analysed the return and risk assessments of the equity purchased from the secondary market for ten different companies for a period of one month. The tools and techniques used in this research are beta, expected return and co-efficient of variation. This paper emphasizes on the market fluctuations relations to the prices of Scrip's though it is difficult to observe a pattern for the price movements but efforts have been taken using fundamental analysis and technical analysis. They concluded that one method is not sufficient to analyse and interpret the fluctuations. However, suggested that these tools help the investor to define the trends to some extent. They also concluded form the research that, the month February 2017 was not favorable to invest in the infrastructure companies.

Lakshman Raj Kandel (2018), the author made an attempt to analyse the risk and return relationship of two selected commercial banks which are listed on the Nepal stock exchange. The data was collected for a period five years and tools such as correlation, SD, covariance, and also portfolio analysis & t-test were used for the purpose of analysis. They analysed that both the banks had high proportions of unsystematic risk, and the prices of the stocks were overpriced. So, they concluded that it was preferable for the investors to go for short selling.

Dr. S Poornima and Swathiga P (2017), analysed the relationship between risk & return of 10 selected companies. These ten companies are selected from 2 different sectors i.e. automobile and IT sector, which are listed on NSE. The tools like average return, SD and CAPM model are used to perform the analysis. Analysis is done for a period of 3 years. They concluded that the analysis helps the investors to select the stock based on their own choice. They advised that in case of the automobile sector it was preferable for the investors to invest in Maruthi Suzuki and Bosch where as in the IT sector it was HCL Technologies. They concluded that the automobiles sector had better market growth than the IT sector.

Dr. M. Muthu Gopalakrishnan & Amal Vijay A K (2017), attempted to analyse the risk return aspects of ten selected pharmaceutical companies which are listed on NSE. The tools which were used to perform the analysis were mean, beta, standard deviation, alpha, correlation and covariance. The data collected was for a period of five years, from 2012 to 2015. By analysing these companies, they understood that if the investor has to get high returns it is very important to consider the risk and return factors of the stocks. They concluded that Sun Pharmaceutical company is giving the high returns but the volatility associated with the returns of the company is also high, where as for Divi's Laboratories company had less volatility in the returns and also had good high returns for the stock. So, they concluded that Divi's Laboratories was the company the investors should prefer in investing.

Dr. Pramod Kumar Patjoshi (2016), analysed the risk and return assessments for four selected bank stocks which are listed on BSE for a period of fifteen years. The study was conducted to analyse the relationship between the risk and returns of the bank stocks and sensex. Tools and techniques like correlation, t-test & regression were used for the study. From the study they found that the Sensex had high returns when compared to the selected stocks apart from few stocks. Few stocks had positive correlation and few stocks had negative correlation with the Sensex returns. They concluded that the banking stocks and the Sensex change in the similar trend.

Krishnaprabha and Vijayakumar (2015), analysed the risk and return characteristics of 25 companies which are listed in BSE. These companies were chosen based on high market capitalization and they were analysed according to the industry they belonged to. The study was conducted for a period of 4 years from January 2010 to December 2014. The tools used for the analysis were returns, beta, standard deviation and covariance. The author believed that risk and return aspects play a very important role in the investment decision. They concluded that the long-term investors had a greater advantage as there was less volatility.

They also analised that the FMCG, IT and Pharmacutical secors gave more return when compared to the Automobile and Banking sector.

Narayan Gaonkar and Dr.Kushalappa (2015), made an attempt to analyse the risk and returns assessments of the selected 30 companies which are listed on NSE and to find out the extent of the variation of the stock of the selected companies for a period of one year. They also analysed the portfolio of these companies. They used tools such as beta and CAPM model. They found out that Axis Bank had the highest CAPM returns, HCL had highest abnormal and actual returns, where as Asian Paints had the least actual returns. They concluded that thirteen companies have less returns than the portfolio returns and also concluded that the stocks which has high systematic risk would not be preferable for an investor due to the high risk involved.

Dr. G. Sudarsana Reddy (2013), the study is done for the purpose of analysing the factors influencing the volatility of the stock prices of the selected FMCG companies which are listed on the NSE in order to compare them with that of the market. Three FMCG company's data for a period of one year was being collected. The tools such as mean, SD, alpha, co-variance and beta are being used. They analysed that the performance of HUL was better when compared to the other two (ITC & Britannia). The concluded by telling that is was not easy to analyse the performance of the FMCG companies due to lot of fluctuations, and that the performance of the market index was better when compared to the company.

Nagarajan and Prabhakaran (2013), the authors conducted the study in order to analyse the risk and return aspects associated with the selected 10 major FMCG companies listed on NSE and also the fluctuations of their stock prices. The stock prices data was being collected for a period of one year. The tools such as standard deviation, correlation, beta, covariation was being used. They concluded that the stock prices of the companies HUL & ITC were comparatively more volatile than other companies under the study period, and that the companies had a positive movement in the prices in relation to the market. Beta of all the selected companies were below 1. They also analysed that Dabur company's share prices were more variable compared to other companies due to high SD & Variation. They explained as to it is very important to always analyse the financial mix, the benefits and the costs of debts should be analysed before making an investment.

S.Kevin (2013), made an attempt to analyse the extent of volatility of the selected stocks share prices across different countries for different time periods. The study was based on the data which is collected for a period of 18 months. The monthly Co-variance values were derived for all the stock exchanges of different selected countries and geographic regions in order to perform t-test. They concluded that there was no major difference in the volatility between the stock exchanges with in the specific regions such as Asian, Latin American, Pacific and European region, but there was a significant difference in volatility of the stock exchanges from different regions.

2.1 Research Gap:
Research gap from the review of literature of the selected articles was that the authors had analysed the risk and return characteristics and assessments of various companies of different sectors or belonging to same sector using various tools and techniques. The results were inconsistent. So, in this study, an attempt it made to analyse the risk and return aspects and assessments of eight selected financial services companies and hypothesis testing is being done using t test in order to analyse the volatility of those eight companies before and after demonetization.

3. OBJECTIVES OF THE STUDY:

- To analyse and compare the return and risk assessments of selected Financial services company stocks listed on the National Stock Exchange
- To examine the relationship between the Nifty and the selected Financial services company stocks.
- To study the volatility of the selected financial services companies pre and post of "Demonetization".

4. RESEARCH METHODOLOGY:
Research Design - Research Design refers to the plan which determines the methods, tools & techniques and the procedures being used for the purpose collecting and analysing the data. A descriptive research design has been adopted for the purpose of analysing the risks and returns of the selected data.

Sources of Data and period of study:
The study is based on the secondary data which is being collected from the National Stock Exchange official website, journals, research articles, and books.

- The Data is collected for a period of 12 months (i.e. One Year), closing prices of the selected 8 stocks related to Financial services sector listed in National Stock Exchange for the purpose of calculating the returns, standard deviation, beta, correlation and covariance.
- The Data is collected for a period of 4 years, closing prices of the selected 8 stocks related to Financial services sector listed in National Stock Exchange for the purpose of performing the T-test.

Sampling Technique Adopted:
Judgmental sampling technique is being used to select the Financial services companies which are listed in the National Stock Exchange, for the purpose of performing the analysis. The results obtained from a judgmental sample are subjected to some degree of bias due to the sample selected based on the researcher knowledge and judgement, the population may not be identical.

Significance of the study:
Return expresses the amount which an investor actually earned on an investment during a certain period. Risk is the probability that a certain investment may or may not deliver the actual/expected returns. The risk and return trade off says that the potential return rises with an increase in risk. It is important for an investor to decide on a balance between the desire for the lowest possible risk and highest possible return. Return and risk analysis helps the investor to make sure he/she does not commit any mistake by entering into a wrong investment or taking a wrong decision. Investor can use various tools and techniques to analyse them. This study helps in analysing the risks and returns associated with eight financial services companies listed in the NSE by using various tools.

Tools used for Analysis:

- Mean
- Standard Deviation
- Correlation
- Covariance
- Beta
- T-test

Sample selection:
Using the judgmental sampling technique eight companies were being selected based on the level of competition being faced by these companies in the market with similar services being offered by them. These eight companies are listed on the Nifty Financial services Index on the NSE. The eight companies are as follows:

- Axis Bank Ltd
- Bajaj Finserv Private Ltd
- Cholamandalam Investment & Finance Co Ltd
- HDFC Bank Ltd
- ICICI Bank Ltd
- Mahindra & Mahindra Financial Services Ltd
- Max Financial Services
- State Bank of India

5. LIMITATIONS OF THE STUDY:

- The study is limited to data collected for a period of one year i.e. from January 2018 to December 2018. (for the purpose of calculating beta, standard deviation, correlation and covariance)
- The study is limited to data collected from eight companies listed under Financial Services Nifty.
- The prediction of the risk cannot be accurate since the fluctuations in the market is based on other External factors and it is uncertain.
- The study is limited to a smaller sample size due to lack of time and resources.
- The study is limited to data collected for a period of 4 years before and after the happening of Demonetization (for the purpose of performing T test)

6. DATA ANALYSIS AND INTERPRETATION:
For the purpose of carrying out the data analysis and calculation of Mean Returns, Standard Deviation, Beta, Correlation and Covariance, monthly closing prices of the selected eight financial services company stocks and the nifty financial services returns for the year 2018 have been collected. Correlation and covariance of these companies were calculated in comparison with the Financial services market. These monthly closing prices were tabulated and with the use of excel the calculations and interpretations were made.

Table 1: Showing Total returns, Mean returns, Standard Deviation and Beta of the selected eight Financial Services companies listed on NSE

Company	Total returns	Mean	Standard Deviation	Beta
Axis Bank Ltd	0.0434	0.0039	0.0774	0.9791
Bajaj Finserv Private Ltd	0.2971	0.0248	0.0876	1.0986
Cholamandalam Investment & Finance Co Ltd	-0.0207	-0.0019	0.1120	0.5618
HDFC Bank Ltd	0.0562	0.0051	0.0545	0.7479
ICICI Bank Ltd	0.0202	0.0018	0.0904	1.1022
Mahindra & Mahindra Financial Services Ltd	0.0217	0.0020	0.0940	1.3520
Max Financial Services	-0.1805	-0.0164	0.1042	1.4317
State Bank of India	-0.0570	-0.0052	0.0881	1.4263

Interpretation: From the table it is understood that Bajaj Finserv had the highest returns for the year 2018 when compared to all other companies but it had relatively high beta as well, which shows the company was involved with high risks which in turn gave good returns and the company stock is volatile because it has a beta of 1.0986. HDFC Bank would be the second option to choose for an investor who wants lower risk with good returns, has comparatively less volatility. Max Financial services and State bank of India had negative returns with high levels of risk involved, so it is not preferable for an investor to choose these two companies as the investment would definitely not give them positive returns and they are highly volatile stocks.

Table 2: Showing the Correlation and Covariance of the selected eight Financial Services companies listed on NSE

Company	Correlation	Covariance
Axis Bank Ltd	0.6537	0.0026
Bajaj Finserv Private Ltd	0.6472	0.0029
Cholamandalam Investment & Finance Co Ltd	0.2593	0.0015
HDFC Bank Ltd	0.7088	0.0020
ICICI Bank Ltd	0.6307	0.0029
Mahindra & Mahindra Financial Services Ltd	0.7435	0.0036
Max Financial Services	0.7109	0.0038
State Bank of India	0.8369	0.0038

Interpretation: The correlation and covariance of these companies are calculated in comparison with the market returns (financial services nifty returns). State Bank of India returns had a very strong correlation with the Financial services nifty returns with a covariance of 0.0038. Axis bank, Bajaj Finserv, HDFC bank, ICICI Bank, Mahindra & Mahindra, Max Financial services all had moderately high correlation with the market returns where has Cholamandalam Investment & Finance company had a very weak correlation with the market returns.

T- test:
For the purpose of performing the student's T test, the monthly closing prices of the eight companies for a period of 4 years i.e. (from Nov 8th 2014 to Nov 8th 2018) have been taken. These closing prices are used for the purpose of calculating the total returns for 24 months before and after the event of demonetization. The returns from each company is used to calculate the covariance of the eight companies by using the data analysis tool in excel. With the help of this tool covariance is calculated for each company before and after demonetization. After the values are compared for before and after demonetization, t-test value and the critical value can be derived, which in turn helps in accepting or rejecting the hypothesis statement.

Hypothesis statements:
Null Hypothesis:
H0: There is no significant difference in the volatility of the selected financial services companies' stocks listed in NSE, before and after the happening of demonetization.

Alternative Hypothesis:
HA: There is a significant difference in the volatility of the selected financial services companies' stocks listed in NSE, before and after the happening of demonetization

Table 3: Showing the covariance of the eight selected companies 24 months before and 24 months after the demonetization

Financial Services Companies listed on NSE (financial services nifty)	Covariance 24 months before demonetization	Covariance 24 months after demonetization
Axis Bank Ltd	0.0094	0.0031
Bajaj Finserv Private Ltd	0.0076	0.0095
Cholamandalam Investment and Finance Ltd	0.0067	0.0082
HDFC Bank Ltd	0.0150	0.0319
ICICI Bank Ltd	0.0083	0.0066
Mahindra & Mahindra Financial Services Ltd	0.0113	0.4458
Max Financial Services Ltd	0.0130	0.0101
State Bank Of India	0.0018	0.0013

Interpretation: From the calculation it was clearly shown that the companies' volatility have definitely changed after the happening of the demonetization, there were ups and downs in the share prices. Some companies have extreme changes where as some companies have moderate changes in their volatility.

The t-test value which was derived after the calculation was 0.3408 which is lesser than the critical value derived i.e. 2.3646, which means the alternate hypothesis has to be rejected and the null hypothesis has to be accepted. It was found out that there was no significant difference in the volatility of the companies before and after demonetization for the selected eight companies.

7. FINDINGS:
Based on the first objective: assessments of selected financial services companies' risk and returns.

- Bajaj Finserv had a high beta level i.e. 1.0986, but the company was earning very good returns. So, if an investor is ready to take high risk levels to get good returns, it is preferable to invest in Bajaj. According to the results obtained Bajaj Finserv has performed better than all other seven financial services companies taken up for the analysis (year 2018). They had good improvement in their asset quality and and reduction in the non performing assets which led to high returns.

- Many companies like Max, SBI, ICICI, Mahindra & Mahindra had high levels of beta in the year 2018, but the returns were low, and for SBI and max it turned out to be negative returns which can be due to various reasons ex: high NPA%

- HDFC Bank had a beta of 0.7479 and returns of 0.0562. Amongst the eight companies, HDFC was the only company which had the combination of comparatively low beta with good returns.

Based on the second objective: Relationship between Nifty and the selected financial services company stocks.

- Companies like SBI, Mahindra&Mahindra and HDFC bank had strong correlation with the market, but they had high volatility in their prices.

- All the other companies had moderate correlation with the market returns and with the movement of the market, but Cholamandalam company had a very low correlation with the market (stock was very volatile) and it also had negative returns.

Based on the third objective: volatility of the selected financial services stocks before and after Demonetization.

- It was found that there was no significant difference between the performance of the selected eight companies before and after demonetization (based on the covariance of the eight companies)

- The reports say that more than 40 stocks after the demonetization had doubled its investor's money, but few companies have been hit by demonetization in a negative way.

- HDFC Bank had a huge drop on its profits, in the year 2017 it had the lowest ever growth in the quarterly segment. This happened due to the note ban as well as redemption on the foreign currency.

- After demonetization there was a lot of money being deposited by the customers, for which in turn the banks such as HDFC, ICICI bank cut down its fixed deposit rates by 0.25%.

- There were huge insurance premium collections after the demonetization, it increased for about 46% for a period of one year.

- For many of the Non Banking companies there was an increase of their assets by 52%.

There were issues for many of the banks relating to the lending operations, where the disbursements of the microfinance and the agricultural field was hit badly by demonetization.

8. SUGGESTION:
- The companies have to invest in the rapidly changing technology and keep their company upto date with the technology in order to keep performing well in the market.

- NBFC's are facing a lot of trouble from the credit risk, so it is important for them to make sure they take all necessary precautions to examine customer's credit records and make sure they establish proper credit limits. They have to take necessary precautions in order to reduce their NPA.

- The banking companies should make sure they increase their productivity by introducing techniques like lean manufacturing. (which means to minimise the waste).

- The Investor can invest in Bajaj Finserv Private Ltd stock if they are ready to take up high risk since the stock is involved with high returns. If the investor wants comparatively lower risk with good returns, then they can invest in HDFC Bank Ltd stock.

9. CONCLUSION:
This project was prepared in order to make assessments of the risk and returns of the selected financial services company stocks and also to understand how the occurrence of an event can cause fluctuations in the stock prices of a company. The results obtained from this study might not be accurate, because of the limited time period to conduct the study, the analysis was done using very few tools and techniques.

It is important for the companies to always be prepared for the unforeseen events which might occur at any time. If a company is well prepared for such events, it might be helpful to reduce the severity of the loss that might occur for the company. So the risk and return analysis is an important assessment which has to be done by an investor before making an investment.

The companies should also take necessary advice from the experts in the field in order to make investment in the required segment and proper precautions in order to improve their performance/returns and reduce the risks associated with it.

REFERENCES:

Articles:
1. Dr. G. Sudarsana Reddy (2013) – "Analysis of select FMCG Companies' Stock Performance with Market", ELK Asia Pacific Journal of Finance and Risk Management, Volume 4 Issue 1, ISSN 0976-7185 (Print) ISSN 2349-2325 (Online)
2. Dr. M. Muthu Gopalakrishnan & Amal Vijay A K (2017) – "A Study on Risk Return Analysis of Pharmaceutical Industries in Indian Stock Market", Imperial Journal of Interdisciplinary Research (IJIR) Vol-3, Issue-5, ISSN: 2454-136.
3. Dr. Pramod Kumar Patjoshi (2016) – "Comparative Risk Return Analysis of Bombay Stock Market with Selected Banking Stocks in India", IRA-International Journal of Management & Social Sciences Vol.04, Issue 01, ISSN 2455-2267
4. Dr. P. Subramanyam and Dr. Nalla Bala Kalyan (2018) – "A Study on Risk & Return Analysis of selected Secutities in India", International Journal of Engineering Technologies and Management Research, Vol.5 (iss.4) DOI: 10.5281/zenodo.124473 ISSN: 2454-1970
5. Dr. S Poornima and Swathiga P (2017) – "A study on relationship between risk and return analysis of selected stocks on NSE using capital asset pricing model", International Journal of Applied Research, ISSN Online: 2394-5869, IJAR 2017; 3(7): 375-378
6. Dr. S. Krishnaprabha1 and Mr.M.Vijayakumar (2015) – "A Study on Risk and Return Analysis of Selected Stocks in India", International Journal of scientific research and management (IJSRM), Vol-3, Issue-4 Pages 2550-2554 ISSN (e): 2321-3418
7. Laxman Raj Kandel (2018) – "Risk and Return Analysis of Commercial Banks of Nepal (with reference to NABIL and NIBL)", Pravaha Journal
8. Narayan Gaonkar and Dr. Kushalappa S (2015) – "Risk Return analysis of NSE listed stocks", Pezzottaite Journals, Volume 4, Number 1, ISSN: 2279-090X, pp 1633 – 1640
9. S. Kevin (2013) – "Stock Market Volatility: Comparitive analysis of Devoloped and Emerging Stock Markets", Indian Institute of Finance, Vol. XXVII No.3
10. S. Nagarajan and K. Prabhakaran (2013) – "A Study on Equity analysis of selected FMCG Companies listed on NSE", International Journal of Management Focus, ISSN: 2250-2971

Books:
11. Dr. V.A.Avadhani (2014), Investment Management, Himalaya Publishing House

Websites:
12. www.nseindia.com
13. www.moneycontrol.com
14. www.investopedia.com
15. www.myinvestmentideas.com